an etching chamber having a side wall and a detachable member which is detachably held inside of said side wall so that said detachable member forms a wall surface of said etching chamber and which is removable from said side wall to outside of said etching chamber, the sample being disposed in said etching chamber;

an evacuation system which evacuates said etching chamber by an evacuation system;

an etching gas supply which supplies an etching gas into said etching chamber;

a plasma generator which generates a plasma for performing etching of said sample in said etching chamber; and

a temperature controller which circulates a thermally conductive medium through the interior of said detachable member held inside of said side wall during etching so as to at least control a temperature of a surface of said detachable member which faces the plasma in said etching chamber within a predetermined range and enables depositing of a coating layer on the surface of said detachable member during etching which prevents the surface of said detachable member from being etched by said plasma.

22. (twice amended) A plasma etching apparatus according to claim 21, wherein said temperature controller circulates said thermally conductive medium so as to control the temperature of the surface of said detachable member in a range of 0 to 50°C.

23. (twice amended) A plasma etching apparatus according to claim 21, wherein the coating layer is deposited with a thickness which is sufficient to prevent

the surface of said detachable member from being etched during etching of the sample by said plasma and which does not peel off during etching of the sample.

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24. (twice amended) A plasma etching apparatus according to claim 23, wherein the thickness of the coating layer is about 200 microns.

Please cancel claim 26 without prejudice or disclaimer of the subject matter thereof.

Please rewrite claim 27 in independent form as follows:

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27. (twice amended) A plasma etching apparatus for etching a sample comprising:

an etching chamber having a side wall;

a detachable member for protecting the side wall of the etching chamber and which is removable from the side wall of the etching chamber to outside of the etching chamber;

a sample holder which holds a sample to be etched within the etching chamber;

means for generating a plasma and for etching the sample within the etching chamber; and

means for preventing etching of a surface of the detachable jacket which is detachable held inside of the side wall of the etching chamber so as to form a wall surface of the etching chamber and faces the plasma during etching of the sample by depositing a coating film on the surface of the detachable member facing the plasma during etching of the sample;

wherein the means for preventing etching of the surface of the detachable member includes a temperature controller which circulates a thermally conductive

medium through the interior of the detachable member during etching of the sample so as to at least control a temperature of the surface of the detachable member which faces the plasma in said etching chamber within a predetermined range.

Please amend claims 28, 29 and 31 as follows:

28. (twice amended) A plasma etching apparatus according to claim 27, wherein the temperature controller circulates thermally conductive medium so as to control the temperature of the surface of the detachable member in a range of 0 to 50°C.

29. (twice amended) A plasma etching apparatus according to claim 27, wherein the coating layer is deposited with a thickness which is sufficient to prevent the surface of the detachable member from being etched during etching of the sample by the plasma and which does not peel off during etching of the sample.

31. (amended) A plasma etching apparatus according to claim 27, wherein the thermally conductive medium is a refrigerant.

Please add the following new claims:

--32. A plasma etching apparatus for etching of a sample placed inside a processing chamber by generating a plasma in the processing chamber comprising:

a detachable member forming an inner surface of a wall of the processing chamber, and a thermally conductive medium circulates inside of the detachable member forming the inner wall surface of the processing chamber, wherein the temperature of the detachable member is controlled within a predetermined range by the circulation of the thermally conductive medium therein.

33. A plasma etching apparatus according to claim 32, wherein the thermally conductive medium is supplied to the detachable member and the inner wall surface of the processing chamber is cooled thereby.

34. A plasma etching apparatus according to claim 32, wherein a coating layer is formed on the inner wall surface of the processing chamber during etching.

35. A plasma etching apparatus according to claim 32, wherein the thermally conductive medium is a coolant.

E 5 Cont

36. A plasma etching apparatus according to claim 32, wherein the temperature is controlled in a range of 0 to 50°C.

37. A plasma etching apparatus according to claim 34, wherein the maximum thickness of the coating layer is 200 microns.

38. A plasma etching method of etching a sample placed inside of a processing chamber by generating a plasma, wherein the sample is etched by controlling a temperature of a detachable member forming an inner wall surface of the processing chamber and which faces the plasma during etching.

39. A plasma etching method as defined in claim 38, wherein a thermally conductive medium is supplied to the detachable member and the inner wall surface of the processing chamber is cooled.

40. A plasma etching method as defined in claim 38, wherein a thermally conductive medium circulates through the inside of the detachable member forming the inner wall surface of the processing chamber.

41. A plasma etching method as defined in claim 38, wherein a coating layer is formed on the inner wall surface of the processing chamber during etching.

42. A plasma etching method as defined in claim 41, wherein the maximum thickness of the coating layer is controlled to be 200 microns.

43. A plasma etching method as defined in claim 38, wherein the thermally conductive medium is a coolant.

44. A plasma etching method as defined in claim 38, wherein the temperature is controlled in a range of 0 to 50°C.

45. A plasma etching method comprising the steps of reducing a pressure inside of a processing chamber, placing a sample on a specimen bed located inside the processing chamber and generating a plasma in the processing chamber, thereby plasma etching processing the sample placed on the specimen bed, and controlling a temperature of a detachable member forming an inner wall surface of the processing chamber and which faces the plasma during etching to a predetermined temperature range.

46. A plasma etching method as defined in claim 45, wherein a thermally conductive medium is supplied to the detachable member and the inner wall surface of the processing chamber is cooled.

47. A plasma etching method as defined in claim 45, wherein a thermally conductive medium circulates through the inside of the detachable member forming the inner wall surface of the processing chamber.

48. A plasma etching method as defined in claim 45, wherein a coating layer is formed on the inner wall surface of the processing chamber during etching.

49. A plasma etching method as defined in claim 48, wherein the maximum thickness of the coating layer is controlled 200 microns.

50. A plasma etching method as defined in claim 45, wherein the thermally conductive medium is a coolant.

51. A plasma etching method as defined in claim 45, wherein the temperature is controlled in a range of 0 to 50°C.--

REMARKS

By the above amendment, an informality in the specification has been corrected, claim 26 has been canceled, with the other claims 21-25 and 27-31 being amended to clarify features of the present invention, with claim 27 being written in independent form incorporating the features of claim 26 therein. Also, new claims 32-51 have been presented.

As to the rejection of claims 21-31 under 35 U.S.C. §112, second paragraph, as being indefinite, the Examiner indicates it is unclear what applicants means by the replaceable jacket being held inside the side wall, since it appears that the jacket is exposed to the plasma and also is not clear how the jacket is exchangeable if it is located inside the side wall. In accordance with the present invention and as